

IN THE CLAIMS

Please change the heading on page 12 before the claims as follows:

What is claimed is:~~Patent Claims~~

1. (Currently amended) A method for transmission of safe process information, comprising:

~~wherein detecting~~ two or more process signals ~~(S₂₁₁-S₂₁₂-S₂₂₁-S₂₂₂-S₁₀₀)~~, which are detected redundantly;

~~identifying in order to identify~~ an event ~~that~~which is relevant to system safety; and

~~converting said process signals, are converted~~ to a single process signal ~~(S₁-S₁₁₀)~~ for further system-based ~~further~~ processing.

2. (Currently amended) The method as claimed in claim 1, wherein, ~~furthermore, the~~ said redundantly detected process signals ~~(S₂₁₁-S₂₁₂-S₂₂₁-S₂₂₂-S₁₀₀)~~ are detected ~~in as far as~~ said the conversion process via two or more channels, and wherein said single process signal~~the converted process signal (S₁-S₁₁₀)~~ is transmitted via one channel.

3. (Currently amended) The method as claimed in claim 1 ~~or~~ 2, wherein, ~~furthermore,~~ said the detection process is in digital or analog form.

4. (Currently amended) The method as claimed in claim 1~~one of the preceding claims~~, wherein, ~~furthermore,~~ the said

conversion process is carried out to form a digital process signal ~~(S₁₇-S₁₁₀)~~.

5. (Currently amended) The method as claimed in claim 1 ~~one of the preceding claims~~, further comprising ~~wherein~~, ~~furthermore~~, transmitting a 1-bit data item ~~is transmitted~~ as the useful content of said single ~~the~~ process signal ~~(S₁₇-S₁₁₀)~~.

6. (Currently amended) The method as claimed in claim 5 ~~one of the preceding claims~~, ~~wherein~~, ~~furthermore~~, the said . transmission of said single ~~the converted~~ process signal ~~(S₁₇-S₁₁₀)~~ is protected.

7. (Currently amended) The method as claimed in claim 1 ~~one of the preceding claims~~, wherein said single process signal has useful content, and ~~wherein~~, ~~furthermore~~, at least one check bit is attached to said ~~the~~ useful content ~~of the converted process signal (S₁₇-S₁₁₀)~~, in response to said ~~the~~ conversion process.

8. (Currently amended) The method as claimed in claim 7, further comprising using ~~one of the preceding claims~~, ~~wherein~~, ~~furthermore~~, a CRC method is ~~used in order to~~ produce said ~~the~~ at least one check bit.

9. (Currently amended) The method as claimed in claim 1 ~~one of the preceding claims~~, ~~wherein~~, ~~furthermore~~, said ~~the~~ conversion process is carried out at a point in a the process signal transmission path capable of being ~~which is~~ and/or ~~can be predetermined as desired~~.

10. (Currently amended) The method as claimed in claim 2 ~~one~~ of the preceding claims, wherein, ~~furthermore, the said~~ single process signal ~~(S₁, S₁₁₀, S₁₂₀) which is transmitted on a single channel within the system is once again converted to two or more additional process signals (S₁₃₀) which, in particular, that are carried via separate channels, in a system output component (13, 130) which that is capable of being and/or can be predetermined.~~

11. (Currently amended) An apparatus for safe transmission of process signals, comprising:

~~S₂₁₁, S₂₁₂, S₂₂₁, S₂₂₂, S₁₀₀) which are detected redundantly for system safety distinguished by~~

a plurality of process signals being supplied on two or more channels and detected redundantly for system safety; and

a converter means (11, 110) for conversion of process signals to a single process signal (S₂₁₁, S₂₁₂, S₂₂₁, S₂₂₂, S₁₀₀), which are supplied on two or more channels, to a single process signal (S₁, S₁₁₀), said single process signal being capable of being which can be transmissiontted via one channel.

12. (Currently amended) The apparatus as claimed in claim 11, ~~furthermore comprising means (12, 120) for system-based further processing of~~ said single process signals (S₁, S₁₁₀) which are carried on one channel.

13. (Currently amended) The apparatus as claimed in claim ~~11 or 12~~, wherein said converter~~in which the conversion~~ means has associated with it an input component ~~(11)~~, an output component ~~(13)~~, an intelligent unit, and ~~or~~ a mechatronic unit.

14. (Currently amended) The apparatus as claimed in claim 11~~one of claims 11 to 13~~, wherein, ~~furthermore, the said converter~~conversion means (11) is designed to is capable of producing a 1-bit data item ~~(S1)~~.

15. (Currently amended) The apparatus as claimed in claim 11~~one of claims 11 to 14~~, wherein~~in which the said converter~~conversion means (11) comprises a logic AND gate.

16. (Currently amended) The apparatus as claimed in claim 11~~one of claims 11 to 14~~, wherein, ~~furthermore, the said converter~~conversion means (11, 110) has means for protection of said single~~the converted~~ process signal ~~(S1)~~.

17. (Currently amended) The apparatus as claimed in claim 16, wherein, ~~furthermore, the said converter~~conversion means (11, 110) has, for protection purposes, means for generation of at least one check bit and for attachment of said~~the~~ at least one check bit to a~~the~~ signal content of said single~~the~~ process signal ~~(S1)~~.

18. (Currently amended) The apparatus as claimed in claim 11~~one of claims 11 to 17~~, wherein, ~~furthermore, the said converter~~conversion means (11, 110) is designed for application of a CRC method.

19. (Currently amended) The apparatus as claimed in claim 11~~one of claims 11 to 18~~, wherein said converter~~7~~ furthermore, ~~the conversion means~~ comprises hardware and/or software elements.

20. (Currently amended) The apparatus as claimed in claim 11, further comprising~~A safety system, in particular comprising~~ at least one network for an automation system~~7~~ having ~~at least one apparatus as claimed in one of claims 11 to 19.~~

21. (Canceled)